AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A projection optical system for forming a reduced image of a first surface onto a second surface, the projection optical system comprising:

a first reflective imaging optical system for forming an intermediate image of the first surface; and

a second reflective imaging optical system for forming an image of the intermediate image onto the second surface;

wherein the first reflective imaging optical system ~~including~~includes a concave first reflector, a concave second reflector, a convex third reflector, and a concave fourth reflector successively as light enters from the first surface side[[;]], and

the second reflective imaging optical system ~~including~~includes a concave fifth reflector, a concave sixth reflector, a convex seventh reflector, and a concave eighth reflector successively as light enters from the first surface side.

2. (Original) The projection optical system according to claim 1, wherein the fourth reflector is arranged in a space between the second and third reflectors.

3. (Original) The projection optical system according to claim 2, wherein the position of the fourth reflector satisfies the condition of

$$0.2 < d1/d2 < 0.8$$

where

d1 is the surface separation between the third and fourth reflectors, and

d2 is the surface separation between the second and third reflectors.

4. (Previously Presented) The projection optical system according to claim 1, wherein absolute values of radii of curvature of all the reflectors fall within the range of 300 mm to 5000 mm.

5. (Previously Presented) The projection optical system according to claim 1, satisfying

$$400 \text{ mm} < R3 < 2000 \text{ mm}$$

where R3 is the radius of curvature of the third reflector.

6. (Previously Presented) The projection optical system according to claim 1, satisfying

$$0 < R2 < 3000 \text{ mm}$$

where R2 is the radius of curvature of the second reflector.

7. (Previously Presented) The projection optical system according to claim 1, satisfying

$$0 < R6 < 4000 \text{ mm}$$

where R6 is the radius of curvature of the sixth reflector.

8. (Previously Presented) The projection optical system according to claim 1, wherein the image-side numerical aperture NA is no less than 0.3.

9. (Previously Presented) An exposure apparatus comprising an illumination system for illuminating a mask set on the first surface, and the projection optical system

according to claim 1 for projecting and exposing a pattern of the mask onto a photosensitive substrate set on the second surface.

10. (Currently amended) An exposure apparatus according to claim 9, wherein the illumination system includes a light source for supplying an X-ray as exposure light, and the exposure apparatus is configured to project and exposeprojects and exposes the pattern of the mask onto the photosensitive substrate by moving the mask and photosensitive substrate relative to the projection optical system.

11. (Previously Presented) The projection optical system according to claim 1, wherein the concave second reflector of the first reflective imaging optical system is equipped with an aperture stop.